characteristic prediction of asymptotic freedom. The key technical fact that made it possible to achieve such close bounds is the fact that $a_n=0$ for n=0.

What emerges from all this is that the total cross sections are predicted to grow asymptotically in a way that cannot be too different from linear. In this particular respect the departure from strict scaling (which leads to a linear growth at large energies) is expected to be very mild. On the other hand, deviations from scaling have a chance to be more substantial for the structure functions themselves, in their detailed dependences on q^2 at each ω. To proceed further, however, one has to introduce new assumptions that go beyond Eq. (2). We shall introduce these in the following section, and attempt there to follow out some of the qualitative implications.

III. THE STRUCTURE FUNCTIONS

The discussion in this section, which is addressed to the properties of the structure functions at large q^2, will be based on a highly speculative assumption. Namely, let us suppose that the moments $F_i^{(n)}(q^2)$ are well represented by the asymptotic expression on the right hand side of Eq. (2) once q^2 exceeds a certain limit, call it q_o^2, where q_o^2 is <u>independent</u> of n; i.e., let us suppose that the asymptotic behavior described in Eq. (2) is uniform in n. At the present stage of theoretical understanding this is to be regarded as a frankly phenomenological conjecture;[10] we shall return to warnings and comments later on. For the present, let us see what follows. In general, the inverse to Eq. (1) is given by